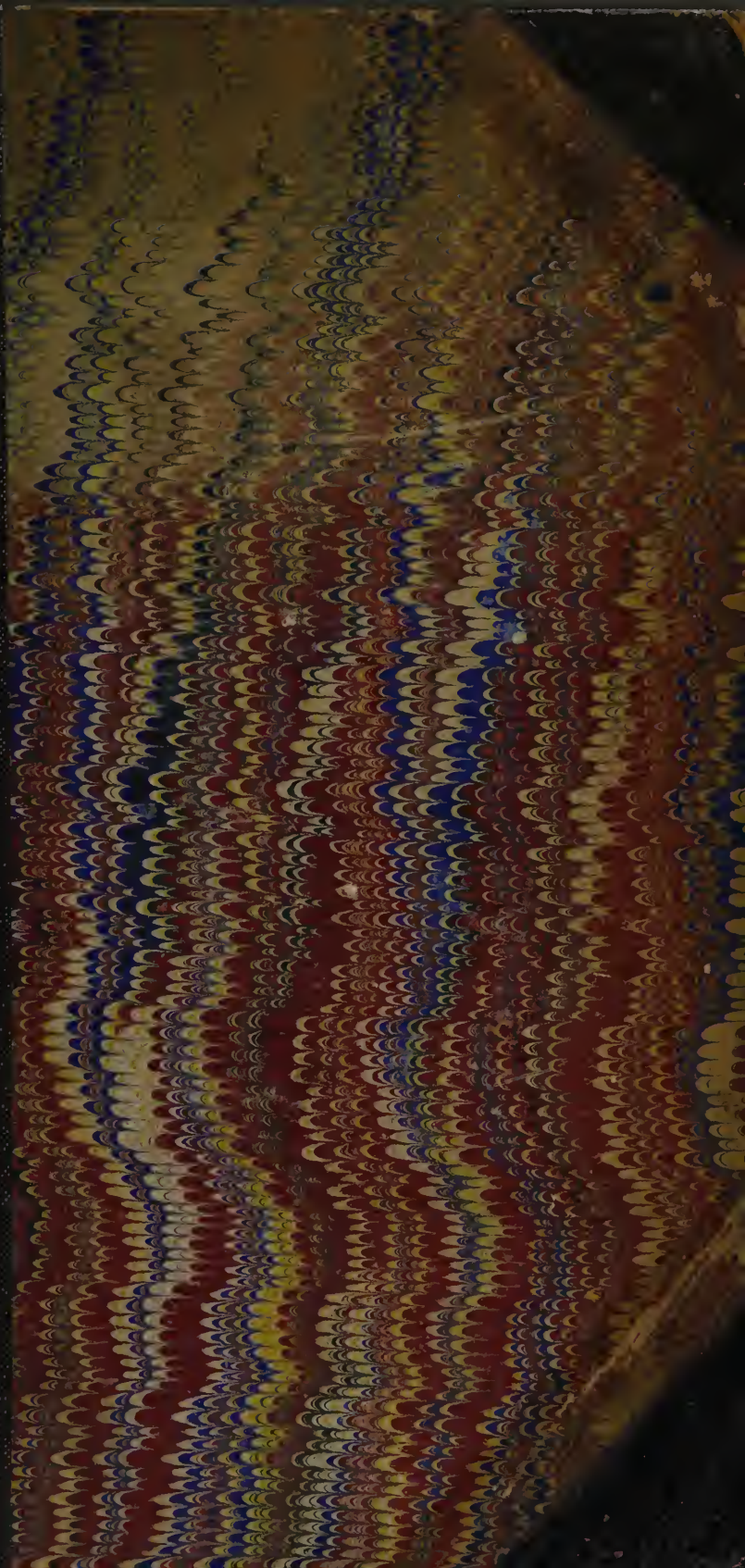


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SENSE AND SOUND.

AS THEY

RECIPROCALLY FORM ANY SIGN OF MIND.

BY

JOHN GASKELL,

AUTHOR OF "THE PHILOSOPHY OF NUMERATION."

Every doctrine which has exercised any influence has done so, and could do so, only by the new direction which it has given to the mind, by the new point of view in which it has presented the subjects of inquiry; that is to say, by its method. Every philosophical reform has its avowed or secret principle in a change or in an advancement of method.

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If the following Essay shall stand the test of thorough criticism, the author will publish several other essays; one on the Philosophy of Government, as applied to the Trade Societies of Journeymen Mechanics; one on the Philosophy of Definitions; and a revised edition of his essay on the Philosophy of Numeration, &c. He therefore invites critics to expose his present Essay if they deem it erroneous; but he entreats them to be sure that they give their reason for each conclusion at which they shall arrive; inasmuch as, by so doing, they will save the author's hard earnings, as a mechanic, from becoming wasted in publishing false philosophy.

SENSE AND SOUND,

AS THEY

RECIPROCALLY FORM ANY SIGN OF MIND.

CHAPTER I.

It can be satisfactorily demonstrated that the beats of a clock's pendulum sound sufficiently alike to be called one sound repeated: yet we hear them as *tick-tack*, *tick-tack*; because we do not merely hear the sounds, we also hearken to hear them consecutively relative; and, hence, the first sound continues as though lingering in the ear till the second one smacks against it. When we hear musical notes reciprocally relative, the sounds have different intonation, because they have different intensity of pulsations of air in a given time. But the sounds of a pendulum are identical in themselves; and, hence, if they were delayed alike in our hearing, we should hear them in a simple repetition of tick! tick! tick! Now, suppose John and James hearken to a pendulum's beats, and that John begins precisely at one o'clock, so that he first hears the first beat towards two o'clock. Then suppose James begins at two seconds past one o'clock, so that he first hears the second beat towards two o'clock. Under such circumstances, John's *tack* will sound as *tick* to James. They both hear one sound; but they listen to connect identical sounds reciprocally relative, and, by commencing at different times, they hear one sound differently. Accordingly, throughout this essay, I have to use the word *sense* in a peculiar, technical manner in connection with the word *sound*; and, therefore, it is highly important that my reader and I should begin not only at one point of time, but also include identical actions in the said time, in order to have a mutual understanding of what I mean.

Anatomists have discovered two classes of nerves, which they term "sensorial" and "motor." A sensorial nerve conveys feeling to our brain, and a motor nerve reacts back to the part whence the feeling came. Hence every sensation includes action to our brain and reaction from it. But this simple condition of action and reaction could never constitute knowledge, because it is analogous to our striking a suspended ball to make it move to and fro. We should thus feel in a passive manner so far as to be without consciousness, and a finger or a toe would move according as it became affected. But, suppose we hear a pendulum's beat, and we say *tick*; the sound of the word would then affect our ear as well as the pendulum's beat. We should thus acquire two distinct circuits of action and reaction to and from our brain, and both in reference to one thing. The sound of the pendulum's beat would produce a primary circuit of action and reaction, and the sound of the word *tick* would produce a secondary circuit. These two circuits are reciprocally relative to one thing, namely, the pendulum's beat, and hence they produce a condition of sensations which is designated by the term *idea*, in contradistinction to the primary circuit, which is denoted by the term *sensation*. By this composition of circuits we acquire an idea; but we

are not in a condition to think, because the process of thinking is a connection of ideas so that one is relative to another and these correlative to a third, and so on consecutively. Hence, we have to acquire not less than three ideas relative to one thing before we can think of it. Accordingly, if we say, *I see pendulum*, we express three words which denote three ideas reciprocally relative, and this condition of ideas is denoted by the word *thought*.

From the aforesaid premises we derive three words, *sensation*, *idea*, and *thought*, which intimate three consecutive conditions necessary for thinking. A sensation is an effect produced in any human or other being, in such a way that the effect is conveyed to the brain so as to cause reaction from the brain. An idea is a connection of sensations, in such a way that a primary sensation and a secondary one become reciprocally relative to that which caused the primary sensation. A thought is a correlation of ideas in such a way that one is relative to another and these correlative to a third.

We thus perceive that a sensation, an idea, and a thought include three conditions which consecutively form the groundwork of knowledge, subjectively considered. But we must next perceive that we have many words each of which denotes not merely a thought, but a line of thoughts, or a train; while other words may singly denote an aggregate of such lines, and other words may singly denote an aggregation of such lines. For example, in my aforesaid exposition of a sensation, an idea, and a thought, I have endeavored to convey an idea of a sensation, an idea of an idea, and an idea of a thought. I thus presuppose that my reader has sufficient knowledge to acquire such abstract ideas of the fundamental conditions of thinking. We must now advance further. Instead of saying that I have an idea of a connection of thoughts of a house, I briefly say, I have a *conception* of a house. Instead of saying that I have an idea of a series of connections of thoughts relative to a house, I briefly say, I have a *comprehension* of a house. And finally, instead of saying that I have an idea of a series of connected series of thoughts relative to a house, I briefly say, I have a *knowledge* of a house.

In my definitions of a sensation, an idea, and a thought, I have assumed no hypothesis. Anatomists give facts for a sensation; every word in language supports my definition of an idea; and every logician must admit my definition of a thought; because, if a thought is a result of thinking, and if thinking implies correlative ideas, a thought must be a correlation of ideas. Hence, inasmuch as a thought includes reciprocal ideas, and an idea includes reciprocal sensations, and a sensation includes action and reaction reciprocally, it would seem to follow, that we might generalize all thinking into a simple proposition by saying, it is the connection of actions to and reactions from the brain. But this generalization would be incorrect. It would be true in regard to the acquisition of ideas, but false in regard to their evolution in thoughts. All thinking is reactive from the brain, and, therefore, all thinking is more or less wearisome, and exhausts our strength far more than bodily labor. But we must not confound the mere chatter of remembered words with the thinking by means of words. When we think, in the proper sense of the term, we acquire new conclusions by so combining old ideas in new circumstances as to obtain new results. And people acquire millions of such results which are never worded by giving them singly a specific name, and hence they are forever lost, though many of them are surely valuable. The reason why it is difficult to rationally invent or construct a new word from one's own language is, because it is difficult to combine old ideas so as to acquire a strictly new one.

I now trust that my reader agrees with me in the way I have distinguished a sensation, an idea, and a thought, and accordingly, I shall apply the word *sense* in reference to the primary sensation of an idea, and apply the word *sound* in reference to the secondary sensation which gives the primary one a fixation of sense for the process of thinking. Thus, the analysis of any proposition will consist in the analysis of single words, so as to trace the junction of sense and sound as they reciprocally form any sign of mind throughout consecutive thinking.

A geometer includes a line, a superficies, and a solid in his conception of extension; and accordingly, we include a sensation, an idea, and a thought in our conception of mind. But extension refers to passive conditions, and mind refers to active conditions; and hence, the word Mind often denotes that which thinks, in contradistinction to the word body, which represents the totality of a being's functions except that of thinking.

I have now presented the fundamental elements of my science of mind; but, before I advance further in my own direction, I feel bound to notice the most eminent authors who have written reversely to my views, and therefore I solicit the reader's kindness for a little while to allow me to combat my antagonists, and then I will proceed directly onward.

Mr. Mill, in his *System of Logic*, says: "There are philosophers who have held that language is not solely, according to a phrase generally current, *an* instrument of thought, but *the* instrument; that names, or something equivalent to them, some species of artificial signs, are necessary to reasoning; that there could be no inference, and consequently no induction, without them. But if the nature of reasoning was correctly explained in the earlier part of the present work, this opinion must be held to be an exaggeration, though of an important truth. If reasoning be from particulars to particulars, and if it consist in recognizing one fact as a mark of another, or a mark of a mark of another, nothing is required to render reasoning possible except senses, and association; senses, to perceive that two facts are conjoined; association, as the law by which one of those two facts raises up the idea of the other. For these mental phenomena, as well as for the belief or expectation which follows, and by which we recognize as having taken place, or as about to take place, that of which we have perceived a mark, there is evidently no need of language. And this inference of one particular fact from another is a case of induction. It is of this sort of induction that brutes are capable; it is in this shape that uncultivated minds make almost all their inductions, and that we all do so in the cases in which familiar experience forces our conclusions upon us without any active process of inquiry on our part, and in which the belief or expectation follows the suggestion of the evidence, with the promptitude and certainty of an instinct."

In answer to Mr. Mill, I will first premise that he will surely admit that language was indispensably required for him to present the aforesaid conceptions in his *Logic*; and accordingly, he must also admit that language was necessary to enable him to conceive those conceptions as thus presented, else he never could have presented them; but his reasoning implies that language was altogether unnecessary for any such purpose. This mode of writing appears contradictory and obscure, yet, believing that I know what he means, and that his meaning is very important, I will try to clothe it in a mechanic's dress, which, though "rough and ready," is easy to act under. If a pin pricks your finger, you require no idea or thought to prompt you to act. You will act impulsively, which means to act sensationally, or, as the common phrase is, you will act without thinking. All persons are more or less addicted to thus act, and many persons act so much from primary feelings rather than from definite ideas, that they approximate to brutes.

Now, suppose a child is too young to know any word, and suppose a pin pricks its finger again and again, and that it sees the pin every time; it is very probable that the child will ultimately move its finger away when it sees a pin approach it, because repeated pricks may have given it such a vivid sensational condition as to prompt it to act instinctively. This appears to be the simplest condition of mind. Brutes, however, possess a higher degree; they, doubtless, can see one thing relative to another, and these correlative to a third; else, how could a dog go alone from its home to a distant place and then return back? But it sees the three things reciprocally relative by means of a simple association of primary sensations impressed by the things themselves, and it thus acquires another such association, and another, and so continuously; but these respective

associations remain individualized, because, if it could connect any two, it could disconnect another two in relation to the said conjoined two, whereas this is impossible without a third abstract association correlative to them, and this abstract association would require to be made relative to the other associations. It could not be made relative to them directly from the objective division of knowledge, and, therefore, it would require the reflective division of knowledge, and thus demand terms and ideas. In the aforesaid extract, Mr. Mill writes very plausibly about "senses, to perceive that two facts are conjoined;" but did he see that such "senses" imply other senses or conditions, to perceive that two facts are disjoined, and other senses or conditions to perceive facts without any reference to their union or disjunction?

Perhaps, all persons daily experience those simple associations of primary sensations, analogous to a brute's mental condition; but the poor brute is solely dependent on its sensational associations to supply its wants. A dog can scent its master through a dense crowd of persons, and, therefore, brutes are more vividly impressed sensationally than human beings are. A man's mere sensational associations quickly vanish unless he is placed in exciting circumstances, analogous to fear instantaneously changing the color of his heart. Compared with the brute, he is rich in thoughts for social talk, and, therefore, he can well afford to lose mere transient sensational associations every day of his life.

From the aforesaid premises we may deduce a definition of instinct, which means the relativity which a brute's actions bear to man's actions, so that the brute's are perceived in only one line of direction suitable to its wants, whereas man's are seen in many ways relative to his wants.

I once knew an eccentric man who lived apart from society, save that of a pig, which slept at his feet throughout the night. He was an extraordinary mathematician, and addicted to the love of whiskey, and so selfish in his disposition that, though he delighted to solve questions for me, he would churlishly refuse to explain the principles of his solution to a young and anxious inquirer. However, I could always outwit him for any important inquiry, by simply having a flask of whiskey peeping from my pocket. He had trained his pig to run with him to hunt rabbits through the woods, and many miles it would run in a day. We might suppose, according to reason, that it went with him because it was more fond of being in his company than remaining at home alone. Whereas, the pig ran with the man simply to be fed, and for this purpose its owner always carried a goodly supply of Indian corn in his pockets, and betimes gave it a handful, and he thus early trained it to run by his side to see its food and go with him a rabbit hunting. I traced this man's early boyhood, and I found that he had lived with an old bachelor schoolmaster, whose pure delight was to sit retired and eliminate algebraic equations quite as mechanically as other men turn a grindstone. The pursuit of mathematics, above all others, is the least liable to be ruffled by the heart's intermeddling; it fosters no genial feelings for suffering humanity, because it lives in an abstract sphere of quiet contemplation, unmoved, un pitying, and ever satisfied by being always irrefutable. Nevertheless, try to admire Bonnycastle.

I have watched an adept training his carrier-pigeons, and the whole affair is quite as simple as the training of a pig to go a hunting. Peter Pindar, the satirist, very shrewdly sings as follows:—

"The turnpike road to human hearts you'll find
Is through the guts, or I mistake mankind."

This couplet is a satire on men by simply placing them on a level with brutes. Everybody knows that when a young pigeon begins to fly from its native dove-cot, it always flies in circles. Accordingly, when it is grown sufficiently strong, its trainer will take it a few miles from home, and then give it liberty. It will instantly ascend so high as to be out of harm's way, and then begin to fly in circles, and ascend higher and higher and make its circles wider and wider, till it can see some familiar object near its native dove-cot, and then it will dart forth

in a straight line. Its trainer will observe its deviation from a circle, and mark the exact instant by his watch. Of course, he has a comrade at home who records the moment of the bird's return. Another day, he will take it further from home, and other days still further and further, and thus he will train the bird to carry letters from one city to another.

Go and observe a sportsman training his young dog to hunt game for him to shoot. He will tie a dead partridge to a string and drag it along the ground in a zigzag course over fields, and then return home for his young pup to scent the way he had gone. This is lesson first, and altogether sufficient to explain all subsequent instruction. Now, to this extent of sensational, unworded mentality, I will cheerfully agree with Mr. Mill; but I will not yield one step more in the argument, till I receive more proof than any author has yet presented.*

Locke, in his *Essay concerning Human Understanding*, says: "In ideas with which infants have earliest to do, the mind discovers that some agree, and others differ, probably as soon as it has any use of memory. But whether it be then or no, this is certain, it does so long before it has the use of words, or comes to that which we commonly call the use of reason. For a child knows as certainly, before it can speak, the difference between the *ideas* of sweet and bitter (*i. e.* that sweet is not bitter), as it knows afterwards (when it comes to speak) that wormwood and sugar-plums are not the same thing." Locke's total reasoning against our having innate ideas independently of our senses can be applied against his own assumptions that we have ideas independently of sensations produced by words or signs equivalent. He forgot that he assumed to distinguish ideas by means of words, while he insisted that such ideas require no words to distinguish them. He failed to see that "sweetness" denotes an idea distinct from "sweet" because we add another word to "sweet" in order to represent "sweet's" meaning when unconnected with any particular object. And thus the letter "a," when placed before one, as thus, *a* one, does the same service for "one" as *ness* does for "sweet." If Locke's followers would reflect, they would prove themselves utterly unable to advance from sweet to sweetness without worded sensations; and therefore a child cannot know the difference between sweet and bitter independently of words. The mere sensations produced by wormwood and sugar are not the sensations involved in the sense of *know* and the sense of *difference*. A child must taste various things in succession, and which produce analogous sensations in one way or another, before it can acquire the sense of sweet or the sense of bitter; and thus a series of sensations produced by various things is the primary objective basis of the sense of all such oppositely relative terms as *sweet* and *bitter*, *difference* and *sameness*.

But, let us cast all abstractions aside, and reason about plain, tangible things. The word *sugar* is called a general term because it is applied to a whole class of brown and white objects which produce analogous sensations of taste, and therefore, if we have an individual idea of sugar without a worded sensation conjoined with a sensation of taste, the said wordless idea cannot be a starting-point to acquire a general idea of sugar. Consequently, we must either reject the said wordless idea and acquire another which involves a worded sensation, or we can never have a general idea of sugar. We thus demonstrate that, admitting we have individual ideas independently of words, we must reject them when we use words for general ideas; and all words possess this characteristic. Even the word *God* is a general term, because it cannot denote an idea of omnipotence independently of littleness either mythological or otherwise.

Locke's fallacy infests the works of all the Scotch philosophers. Dugald Stewart says: "The difference between the employment of language in such cases (*i. e.* concerning individuals), and in our speculations concerning classes or genera, is that, in the former case, the use of words is, in a great measure, optional; whereas, in the latter, it is essentially necessary." Enough of such

* See Appendix, Note A.

empty assumptions, echoed from one author to another. Stewart forgot that *individual* and *general* are reciprocal in sense, and therefore, if we can acquire individual ideas without worded sensations, we can also acquire general or generic ideas without worded sensations. But he admits that words are essentially necessary for generic ideas, and therefore, if we add my deduction to his admission, we finally prove that words are necessary for individual ideas.

I have read many theories of "perception," to explain mind fundamentally, but their authors have always appeared to me like a man who would ascend to the top of a tree to explain its roots and branches, and there sit gazing towards the clouds and imagine the tree after him. Not one of them gives a true analysis of perception. Whereas, perceiving is, relative to seeing, what hearkening is to hearing. When we hearken, we hear attentively; and when we perceive, we see thoroughly. We not only see, but also *persee*, if I may coin such a word.

Philosophers say: "If all men spoke one language, we might conclude that words are necessary components of thoughts; but men speak in different tongues, and therefore words are unnecessary for thoughts." Such reasoning is quite as absurd as to say that planets and comets do not move in one orbit, and consequently they cannot revolve around one centre. I maintain that a word is a result by means of a secondary circuit of sensation which is so relative to a primary circuit that both are correlative to that which caused the primary one. I also maintain that this secondary circuit is necessary for an idea, and thence consecutively necessary for thinking, yet not instinctively as a brute, but rationally as a philosopher; and I warn my opponent not to use any kind of signs in trying to refute me, because such signs would support my position. Though a deaf and dumb man may think without *our words*, and communicate his thoughts by means of his hands and his looks, yet, I suspect that his tongue has correspondent motions, and that he differs from common thinkers more in manner than in substance. Be this as it may, I confidently affirm that a mute cannot think without a composition of circuits of sensations constituting a single idea. And a being who is born totally deaf and blind can be able to think, only by exercising the sense of touching so variously by compounding repetitions as to serve for the want of sight and hearing. Everybody knows that a seeing mute uses his eyes far more than he who can hear and also see, and that the mute utters a rapid chatter when his feelings are violently agitated.

The most popular work on the subject of mind at the present day is so obscured with collegiate declamation and metaphors as to cause homebred thinkers to love their household words, and laugh at the jargon of metaphysics. Authors "treat the mind as divided into compartments, and represent its faculties as so many members, like the parts of a body." So says Lord Brougham, in his *Dialogues on Instinct*. Not one of them proves the existence of a faculty, except as a metaphor; and their whole philosophy consists in the one bold assumption that a man's mind is a somewhat, and his body a something, and that his mind acts by means of faculties as instrumentally as his body acts with a lever, a screw, or a wedge. A phrenologist is the most famous of all propers for faculties. Of these he already numbers about forty, if we include his sentiments and propensities; but he fortunately measures the surface of a skull, and restricts the number of his faculties accordingly, else there is no telling where he would stop. His definition of a faculty is a curiosity when seen in connection with his definition of an organ.

Mr. Whewell, in his *Philosophy of the Inductive Sciences*, says: "Sensations and ideas in our knowledge are like matter and form in bodies. Matter cannot exist without form, nor form without matter; yet the two are altogether distinct and opposite. There is no possibility either of separating or of confounding them. The same is the case with sensations and ideas. The sensations are the objective, the ideas the subjective, part of every act of perception or knowledge."

Observe his Germanic mode of bringing matter and form, and the objective,

and the subjective, to distinguish sensations from ideas. What a mixture of learning he gives us where we want consecutive analysis. Admitting that matter cannot exist without form, nor form without matter, it does not follow that all matter has a definite form in our comprehension. So, admitting that ideas cannot exist without sensations, it does not follow that the two are always reciprocally definite. Sensations and ideas are activities; matter and form are passivities when we merely consider their relationship; and hence, to distinguish a sensation and an idea, we require some process of action as constituting their connection; whereas, in distinguishing matter and form, we merely require to see the passive union of matter with its outline. We thus see that Mr. Whewell's analogy is inconsistent; and this is the reason why it gives no clear conception of a sensation, an idea, and a thought either singly or conjointly.

He also says: "The mind is in some way passive as well as active; there are sensations as well as acts of thoughts; objects without, as well as faculties within. Ideas are the active, sensations the passive element of our minds. Without our ideas, our sensations could have no connection; without external impressions our ideas would have no reality; and thus both ingredients of our knowledge must exist."

An Irishman once mistook a stranger for an old acquaintance, and then apologized by saying, "I thought you were him, and I thought he was you, but I now find that I see neither of you." Is not this apology an illustration of Mr. Whewell's exposition of a sensation and an idea?

He further says: "Language is often called an instrument of thought; but it is also the nutriment of thought; or, rather, it is the atmosphere in which thought lives: a medium essential to the activity of our speculative power, although invisible and imperceptible in its operation; and an element modifying, by its qualities and changes, the growth and complexion of the faculties which it feeds."

I have quoted the aforesaid extracts from Mr. Whewell's celebrated work in order to show his conception of a sensation, an idea, and a thought. He gives an abundance of mere pulpit rhetoric, but no scientific analysis to establish the fundamental elements of knowledge; and such is the present condition of the science of mind in our colleges.

Mr. Upham is the most popular of authors on purely mental subjects, if the present tutors in Philadelphia are competent judges. He says: "There is undeniably something distinct from sensation; thoughts, which have an interior origin, and cannot be represented by anything external: ideas, which are based upon the succession, relation, and infinite of things, and not upon what is tangible."

Observe how naturally Mr. Upham, as well as Mr. Whewell, refers to sensations, ideas, and thoughts. Indeed, these three words intimate consecutive conditions which are so necessary for the process of thinking, that no author, in writing of mind, can discard them, howsoever he may fail to methodize their meanings. I reply to Mr. Upham, that all thoughts which refer to "the relation and infinite of things" are based on a greater number of sensations than those thoughts which refer to mere tangible things; precisely for the same reason that we require more sensations to see several things than we require to see one thing. We have more sensations in acquiring the sense of the number *one*, than we have in acquiring the common meaning of *stone*. Instead of discarding sensations, as Mr. Upham does, I analyze the succession of things in a manner quite the reverse of him, and require more sensations in proportion as ideas are more complex.

Most ideas are based on prior thoughts from thinking relative to tangible things. A train of thinking (like talking to one's self) becomes associated with other trains on a given subject, and this association produces a result which is first in a vague sensational condition, because the association causes a sensation *memorially*, and not *objectively* like a visible thing. But, if the result is sufficiently

important, it will be worded, and thus subsequently become in the condition of an idea and a thought. We thus see the absolute necessity for a secondary circuit of sensations by which we affirm a name relative to a primary sensation; for, having worded one result, then this may suggest another, and so on consecutively. But, by my definition of a thought, it is evident that a train of thinking is not analogous to a straight, unbroken line, but analogous to a succession of correlative cycles. We think in correlations on all subjects whatsoever. Hence all knowledge is an aggregation of such cycles from the thinking of mankind, and conformably to the fundamental condition of a sensation. Substitute these, my cycles, for others' faculties, and then see the mind's oneness as to space, and its endless multiplicity as to time.

There can be very few radical words in any language, because things of one class have one name, and also because we can see very few radical degrees of relativity predicable of any things. Most words denote objects which have previously required thinking to produce those objects.

John owns a good house, and, though it cost two thousand dollars, yet its present value, according to the price of adjoining property, is only two-thirds of its cost.

Here is a sentence on a familiar subject, which contains thirty words; yet only three, *John*, *house*, and *dollars*, represent objects immediately visible; the remaining twenty-seven denote effects from thinking of things. This condition of language shows plainly that our knowledge is much interwoven; in such a manner, indeed, that, though all words possess an individuality, they also variously denote a social relativity to one another. Hence, we see the necessity of so arranging the elements of knowledge as to indicate the progress of the whole. Now, suppose we have an idea of an apple; the apple would first appear external to our senses, and it would thus be in a condition different from that in which our idea exists. Let us name the external condition of the apple, the *Objective* division of knowledge; and name the internal condition of our idea, the *Subjective* division of knowledge. Furthermore, suppose we trace the sense of the word *own*; we must first understand the sense of *possess*, and then conceive a person possessing a thing in relation to laws which protect rights, and then we briefly say, the person owns the thing. This is the direct view of the sense of "own;" but if we view it inversely, then a thing is literally *owed* to the person by the very laws which protect the person and thing conjointly. We thus perceive that the Objective and the Subjective condition of knowledge become reciprocally progressive in the Subjective, and thus suggest a third condition which we shall name the Reflective. Now, as the Subjective includes the Objective, so the Reflective includes both. To show the utility of this arrangement, suppose we speak of the elements of knowledge: the question might arise whether we allude to objects external to us, or allude to primary ideas of those objects, or allude to secondary ideas, deduced by means of our primary ones in reflection.

Mr. Thomson, in his work entitled *Laws of Thought*, says: "Not to understand these words (*i. e.* Subjective and Objective) is a disqualification for the study of modern philosophy. The *subject* is the person who receives impressions; the *object* is the external thing which gives them. When I see a mountain, I am the subject, and the mountain the object. Subjective, therefore, would mean relating to the mind that thinks; Objective, relating to the thing thought of."

I reply to Mr. Thomson that it is utterly impossible to distinguish the relativity of any two things except by means of a third one. To say that one stick is longer than another, we assume that the two are differently relative to length. And I at once declare that Mr. Thomson's very explanation of the Subjective and the Objective positively indicates a third condition reciprocally relative to the Subjective and the Objective. I also affirm that, by arranging the elements of knowledge only in two conditions, it is utterly impossible to avoid confusion, because, when the two conditions become variously combined in relation to either

one singly, how can we distinguish those various relativities when restricted to the two conditions? Accordingly, we may expect to find that Mr. Thomson presents confusion. He plainly says that the Objective refers to things external to us; and he finally says that the Objective refers "to the thing thought of." Now, suppose we think of an idea; the idea is thought of; but is it in the Objective or the Subjective condition of knowledge, according to Mr. Thomson's own exposition of the Objective and the Subjective? He thus convicts himself, and merely follows German metaphysicians, instead of clinching his subject with his English common sense, by giving us the Reflective condition.

But, neither my arrangement nor Mr. Thomson's will suffice for a classification of ideas, because our arrangements are mere classifications of certain conditions in which all knowledge may be usefully conceived as consecutively included. We may now ask whether it is possible to produce a natural classification of ideas? Where must we begin, and what mark must we select by which to designate each class?

CHAPTER II.

ON THE CLASSIFICATION OF IDEAS.

ACCORDING to my definition of an idea, a classification of words must be a classification of ideas; and though this may be denied, I invite any man to distinguish any class of words from another, indicative of sense, and not distinguish one idea from another. A nation's language is a nation's mind *insensed* in sound, and whether we write or print a mark for each sound, the marks, by means of sound, will still designate a nation's mind. If we say that men can be wiser than words can denote, we assume that no words can appertain to the wisest of men, and this is plainly an absurd contradiction. But what general principle of progression must we adopt to connect our classification consecutively? A little reflection will prove that ideas can be naturally classified only in conformity with their evolution in a thought, and thus our classification would include thoughts as well as ideas, because we should classify ideas in accordance with their summation in thoughts. Accordingly, we may arrange all words into three consecutive classes, and name them Nouns, Verbs, and Adjuncts.

A noun is any word which so denotes an idea as to be the basis of a thought or its conclusion. A verb is any word which so denotes an idea as to be an evolved counterpart of the noun basis of a thought. An adjunct is any word which so denotes an idea as to be the result of comparing the meaning of two nouns, or of two verbs.

In defence of this classification, I will briefly say that each branch of knowledge, such as botany, chemistry, &c., involves ideas peculiarly its own for a classification; this means, that certain things in the objective condition of knowledge become impressed in the reflective condition of ideas, in such a manner as to involve ideas peculiar to each branch of knowledge. In like manner, a classification of ideas connected with a science of mind must involve ideas peculiar to such a classification and such a branch of knowledge. Moreover, these peculiar ideas must have a sensational basis, and this basis can be naturally perceived only by perceiving in what way ideas are connected in the evolution of a thought. From these premises, it is self-evident that a natural classification of ideas appertaining to a science of mind must include a scientific principle which is universally applicable to all other classifications of all other branches of knowledge; and thus a true science of mind must be the handmaid of all other sciences. But this is a direct view of mind, as though a science of mind was first established and all other sciences made to conform to it; whereas, the reverse is the fact, and therefore we should view mind inversely as well as directly. Now mark, we may possibly find some branch of knowledge which is so exempt from the passions, the prejudices, and the ignorance of mankind as to be in a straightforward condition. We may surely find, in such a branch, that men's

thinking has had fair play and a clear field for manly progress, and thus we may use such a branch to give thinking fair play in other branches of knowledge. Accordingly, to those persons who may condemn my classification of words, I suggest that they select the most approved classifications in several branches of knowledge, and ascertain what general principle of progression connects their classes. Then select the most approved classification of words, and see what principle of progression connects its classes. And finally, compare the said principles of progression to prove whether they agree, or how they differ. By thus proceeding and cross-examining, I candidly believe that some laborious metaphysician will one day give a science of mind to all other thinkers, so that they may present their own matters scientifically to him. Of one fact let us rest assured, that any given page of any common book contains all the fundamental elements for a complete science of mind, and that the whole difficulty in establishing such a science consists in discovering an indisputable mode of arranging those elements, so that the one which should be the first shall not be second, but that each shall stand to each for the harmony of the whole.

Concerning my definition of a noun, suppose we say that *John cuts marble*. Here the word "marble," when seen relative to "John," stands in the place of an adjunct, or, more properly, in the position of an adjunct. In thus speaking of John, we do not merely declare what he does; we also imply that he might do otherwise. The assertion implies that somebody desires to know which trade, of all trades, John works at. If all men had only one occupation, it would be needless to say what any one does. If all men could see only one thing, we should then use the word *see* only in relation to *hear*, *smell*, *taste*, and *touch*. Accordingly, when a noun is placed objectively to a verb, it stands in an adjunct's position, and thus intimates an implied relativity to some other noun. These remarks are universally applicable. For example, the philosophy of a lawyer's mode of cross-examining witnesses is based on the aforesaid exposition of nouns when placed objectively to verbs.

Concerning my definition of a verb, I will remark that the process of evolving the sense of a verb from a noun is identical with the process of conceiving ghosts, hobgoblins, and apparitions of all classes, kinds, and varieties, including "spiritual rappings." It is a fact that people talk of such conceptions; and, therefore, it is a fact that they have some sort of ideas concerning them, and this is sufficient to invite a philosopher's analysis. But whether the sense of such ideas is reflectively evolved from the relativity of prior ideas, or whether the sense is primarily impressed from some entity in the objective condition of knowledge, is the very pith of the whole subject in dispute. A materialist who denies that any men have an idea of a soul may as well deny that he himself has any idea of what he calls spiritual nonsense. And the spiritualist might be better employed in examining his own premises than in dooming his opponent to eternal perdition, whether by mere rant or burning fagots. They should both first try to settle some preparatory questions, and clearly see that, to distinguish a verb from a noun, involves the same philosophical principles as to distinguish a soul from a body. Consequently, any plausible definition of a verb can be applied to the conception of a soul in some condition. Our popular grammarians characterize verbs as denoting "to be, to do, or to suffer." This description is the very pink of an illustration of a poor Catholic's soul probationary in his purgatory.

To assist in obtaining a satisfactory definition of a verb, I will also remark that there are very few radical actions, perhaps not *ten* in all; yet there is no end to the multiplicity of verbs which may denote actions. I will try to explain this paradox. Suppose a number of stonecutters are working in one shop, and suppose one of them, named John Dennis, is a clumsy workman, and often breaks the corners of stones which ought to be worked square. Then suppose another workman, named John Smith, also breaks a corner. This suggests to the remaining men that the said John Smith has *dennised* a stone; and thus a clumsy workman's surname becomes applied as a verb to denote a radical action when clumsily

performed on a particular part of a given job of a particular trade. Observe that, to coin such a verb, it was necessary for the men to become evolved into three parties, namely, those who avoid breaking corners, those who occasionally break them, and John Dennis who often breaks them. These three points of interconnection should never be overlooked in tracing the meanings of verbs. I could adduce many of such examples which I have noticed throughout my life. I do not mean that a man's surname has been always adopted for a new verb; but the aforesaid *dennis* example may suffice to indicate the formula of assimilating nouns into verbs and adjuncts. Observe our political parties; you will see that any one cannot thoroughly nickname another except by means of something thirdly conceived, and which is in some way degrading or ridiculous.

My name is John Gaskell, and I once had occasion to tell an apprentice boy that, unless he behaved himself, I should walk him out of the shop. When I retired, I heard him say to another boy, "that's all *gas*." "Heigh-ho," thought I to myself, "is this lad so ready-witted as to need only one-half of my surname to serve his whole purpose?" I watched him day after day to detect his using gas again, but without any satisfaction; and, soon after this occurrence, I accidentally heard an old man condemn another for being a fool, "because," said the old man, "he is eternally *gassing* about his prospects." I at once concluded that the recent introduction of coal gas into Philadelphia to give brilliant light had suggested the application of the word gas to denote flaring or superlative bragging.

We thus perceive how an endless number of verbs may be based on a few radical actions which become variously applied by different persons in different circumstances and for different purposes; and thus diversified relativities become as though tacked to those radical actions. Moreover, mere relativities are frequently verbalized. I have seen thousands of pages in relation to the "will," when jumbled with freedom and constraint; but, alas! what huge volumes of verbiage, and for which we are indebted to the rancor of sectarian bigotry. *Will*, when a verb, denotes relativity verbalized. View a person relative to a *free* motive proposition, and these correlative to a consequent result, and you will reflectively evolve the relativity which "will," as a verb, denotes. Observe in the last sentence that I have italicized "free," and if we substitute "constrained" for "free," the sentence will then apply to the sense of *must*.

In order that the aforesaid formula may be clearly understood so as to be universally applied to all words which designate mere verbalized relativities, such as "shall," "will," "must," "can," &c., I present the following examples:—

I have money due me in Boston;
I have thought about collecting it;
Accordingly, I *will* collect it.

Now, as it is necessary for money to be due me, before I can think of collecting it, so it is requisite for me to think about collecting it before I *will* to collect it. Consequently, *will* means the verbalized relativity of three propositions, so that the second, relative to the first, denotes a person free *in* action according as the third represents the person free *to* act.

I have money due me in Boston;
My creditors dun me to pay them;
Accordingly, I *must* collect my money.

Must thus denotes the verbalized relativity of three propositions, so that the second, relative to the first, denotes a man constrained *in* action according as the third denotes him constrained *to* act. We thus find that the sense of all such words is involved in a simple inductive syllogism as contradistinguished from deduction. Edwards, in his famous work on the *Freedom of Will*, says: "The will is plainly that by which the mind chooses any thing. An act of the will is the same as an act of choice." I retort that a man may will 999 times negatively and once affirmatively, and the 1000 wills may be requisite for one choice. Hence, a *choice* means an aggregation of wills in two divisions, so that

one division is affirmative to the thing chosen, and the other division negative to it. Had I no respect for the sectarian prejudices of my neighbors, I would not desire a better jest-book than Edwards's work on the *Freedom of Will*. Indeed, every popular book concerning the will should be entitled "A wilful work to show an author's willingness to will wilfulness concerning the will." Not one of their authors has had the penetration to see the absurd tautology of tacking freedom to will, precisely as lawyers fail to see the absurd tautology of the phrase "legal rights."

The Noun Class of words includes several kinds, which grammarians term "common, proper, and abstract;" as, city, Boston, virtue. These kinds also include several varieties which may be termed verbal, composite, and substitutive; as reading, writing, singing; reader, writer, singer; American, Pennsylvanian, Philadelphian; and I, thou, he; me, thee, him.

The Verb Class of words includes several kinds, which grammarians term "active, passive, and neuter;" as, I *love* Jane, she is *loved* by me, and she *sleeps* soundly. These kinds also include several varieties which grammarians term "regular, irregular, and defective."

I condemn the aforesaid names which grammarians have given to the three kinds of verbs, because they vaguely denote the kinds. "I own a house;" here "own" is said to be an active verb, yet it designates no action, but a verbalized relativity; and many of such examples might be given. Now, according to my definition of a thought, a verb stands between the two extremes of a thought, as though bridging over from one to the other. Accordingly, this bridging over can be seen naturally, only by seeing it directly over, or inversely over, or seeing it sideways. Consequently, I would name the three kinds of verbs, Direct, Inversed, and Neuter; as, John *owns* a house, the house is *owned* by John, and he *lives* there.

I have previously stated that we think in correlations on all *subjects* whatsoever, and I thus used the word subject in reference to any portion or division of knowledge when considered relative to its condition in ideas. At that point of our inquiry, we were required to confine our attention to that condition of ideas which involves a thought fundamentally, as being one idea relative to another, and these correlative to a third. But I must now use the word subject technically and in relation to the word object, also used technically. For example, let us conceive this scheme, S——O, to represent the basis of a thought connected with its termination. *Subject* will then refer to the basis or initial of a thought, and object will refer to the thought's conclusion.

Grammarians say that their verb active is always *transitive*, "because the action passes over to the object, or has an effect upon some other thing." But, "verbs neuter are *intransitive*, because the effect is confined within the subject, and does not pass over to any object; as, I sit." In refutation of this fallacious jumbling of matters, I will first premise that the very names, "active, passive, and neuter," which grammarians give to denote the kinds of verbs, plainly show, in connection with the examples given, that they refer to verbs as bridging over between the subject and the object of a thought. Consequently, those names of kinds do not refer to kinds of actions; but, admitting they do, they would be altogether worthless by not denoting the multifarious relativities which are tacked to actions. We thus perceive that those names of kinds positively refer to the kinds of *the directions* of actions, as bridging over between the subject and the object of a thought. Accordingly, it is quite plain that grammarians confound the kinds of actions with the kinds of their directions. To say that I see the moon, and the moon is seen by me, I represent myself alike actively in both thoughts, and the moon alike passively in both; but my seeing is inversely stated, and this makes the difference.

No two words, as a noun and a verb, in any language, can designate a complete thought unless they imply a third word. Any noun and verb, rationally conjoined, must possess a relationship while they are conjoined, and it is utterly

impossible to distinguish a relativity between any two things independently of a third thing. But by the conditions of the aforesaid kinds of verbs, the relationship which a verb bears to a noun must consist in a bridging over between two extremes; and, therefore, no verb can be rationally termed intransitive. Now, let us remember that a noun, when placed objectively to a verb, stands in the position of an adjunct, and thus implies a relativity to some other noun. Accordingly, suppose we see a man so far distant that we can barely discern his movements; the question might arise whether he walks fast, or, whether he runs. Here the two words, *he runs*, are plainly relative to the three words, *he walks fast*; and thus, whenever we find a mere noun and verb conjointly, the verb implies a relativity to some other verb or adjunct. "I came, I saw, I conquered," imply that I came here, I saw enemies, I conquered them. Though all verbs are necessarily transitive in their meanings, it does not thence follow that every verb should be so transitive as to verily pitch into its object. While one verb may denote action which plainly passes over to an object, another verb may possess an equivalent transitive characteristic by implying a relativity to some other.

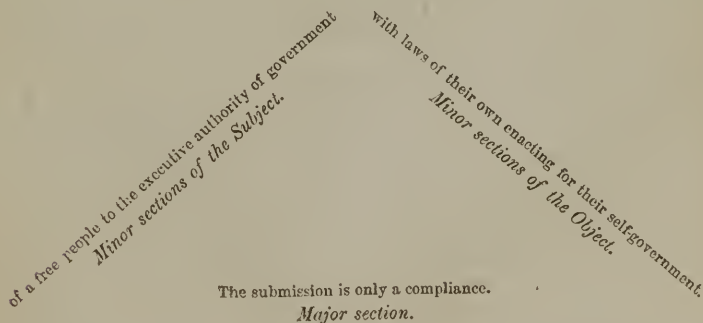
I have no hope that this reasoning will convince mere grammarians, because they are the very Catholics of scholars, who believe as they are *ruled* to believe. They cannot see that a rule without its reason is like a pig without its owner, because both are liable to show the sense of *astray*.

The Adjunct Class of words includes several kinds, which grammarians name the "positive, the comparative, and the superlative," as pretty, prettier, prettiest; prettily, more prettily, most prettily. These kinds also include varieties which may be termed the emphatic positive, the emphatic comparative, and the emphatic superlative; as, *very cold*, *exceedingly colder*, *exceedingly coldest*.

We have now considered a classification of ideas constituting thoughts in the simplest condition. We must now transfer our conception of a simple thought to thoughts complex, and thus commence another and higher classification of ideas. If we say, "John gave me an apple;" this means, that John gave an apple to me. Here the two words, *to me*, represent a minor section added to the major section of a thought. Now, the question arises, how many minor sections can we rationally conjoin with the major section of a thought? We know that a thought can have only one subject and one object, and that these belong to the major section of a thought; and, therefore, all minor sections must refer to the said subject and object of the major section, as the following thought may show:—

The submission of a free people to the executive authority of government is only a compliance with laws of their own enacting for their self-government.

The following triangle will explain this thought fully:—



Observe that the major section is arranged at the base, and that the minor sections are placed on the right and the left, in agreement with the subject and

the object of the major section. We may thus easily conceive the most complex thought to be analogous to a tree, inasmuch as the major section stands as a trunk, and the minor sections as branches springing from it. Now, let us name this mode of resolving the sections of a thought, *Sectional Reading*, and we shall then have a name to denote a very useful application of analysis.

The following thought is another example to be arranged triangularly:—

A practical knowledge of his own language, to the rational man of study, is a subject of lasting importance in contributing to his pure delight.

We see that all minor sections are connected with the major section by means of certain little words, such as *of*, *to*, *with*, &c. Grammarians conceive these words, with a few more like them, to constitute a distinct class of words, which they call “prepositions.” Whereas, any one of their “prepositions” denotes a relativity of *place*, *position*, or *condition*, which a minor section of a thought bears to the major section; and, therefore, their “prepositions” are truly adjuncts. “John threw a stone *at* a door, *towards* a door, *against* a door, *under* a door, *over* a door, *through* a door, *behind* a door, *on* a door, *into* a door, and *beside* a door.” “John sat *on* his horse *in* the battle, and was cut *with* a sword, and killed *by* a cannon-ball.” These examples appear sufficient to verify my conception of the adjunctive sense of those words which grammarians term prepositions.

The number of minor sections which can be rationally conjoined with the major section of a thought appear to be six, three for the subject and three for the object. Accordingly, when we see four, five, or six minor sections in one succession, we may suspect either a vague arrangement, or a superfluity of sections.

A huge volume of eight hundred pages, and recently published, is crowded with such sentences as the following one about the “mechanics of nature:” “All the groupings of atoms of the four organic elements into the organic formations of the mechanisms of the nerves of animal bodies, are specifically designed to modify the propagation of the electro-dynamic action, and to subserve the practical purposes of electro-telegraphic instruments for systematically communicating comprehensible signals from the objects of the external world to the immaterial essence of intelligence embodied therein; from matter to mind, and from mind to matter.” This author slights metaphysics as being an “airy nothing” by the side of his “mechanics,” and therefore it is useless to expound Sectional Reading to him; but, on the contrary, I recommend him to some hog-butcher who teaches the art and mystery of gutting mangled thoughts when they are physically stretched out. Current literature is cursed with such specimens of contemptible authorship, sneering at metaphysics in one sentence, and impudently presenting metaphysical humbug in the next. If men repudiate the study of mind, they should never presume to analyze a single thought, for the same reason that they should feel ashamed to sneer at mathematics while they are ignorant of simple multiplication.

A critic, in reviewing the works of Laplace, has occasion to answer the question, whether the internal heat of this globe has become perceptibly cooler during the last two thousand years? He concludes that the earth’s heat is the same now as it was in the days of Hipparchus; and, in the course of his reasoning, he says: “The momentum of rotation found by multiplying each particle by the square of its distance from the axis of rotation, and by its angular velocity, would be the same for the whole mass before and after the change of temperature.” Observe that he gives six minor sections in succession; but, should he not have said: “If the square of each particle’s distance from the axis of rotation be multiplied by the angular velocity of the said particle of this earth, the momentum of rotation for the whole mass of particles would be the same before and after the change of temperature”?

The preceding sentence plainly exhibits two complex thoughts in such a way

that the latter is a consequent of the former. This condition of thoughts suggests that we should now transfer our conception of a complex thought to a cluster of such thoughts as forming a sentence. The word *if*, in the aforesaid sentence, denotes the admitting of one proposition so that another may result from it, or be, in some way, agreeable to it. We thus arrive at a condition of thoughts, wherein they are so linked together that some may stand independently, yet companionably, while others may be reciprocally tied as antecedent and consequent, like father and son, while others may stand as illustrations, analogous to first and second cousins. For example: "I condemn a standing army; *but* I would support an army to guard persons and property, *lest* people might riot, *as* they do in Paris." This sentence contains four distinct thoughts, which we must now call Propositions, and construe them as follows:—

First, let us select those propositions which stand independently, to see whether they are companionable with the others. We find only one such in the said sentence; thus, "I condemn a standing army."

Secondly, let us select those propositions which are reciprocally relative as antecedent and consequent. We find only two such in the aforesaid sentence; thus, "I would support an army to guard persons and property, lest people might riot."

Lastly, let us select those propositions which are mere illustrations of others. We find only one such in the aforesaid sentence; thus, "as they do in Paris."

Now, particularly observe that the said mode of resolving the propositions of a sentence includes only three consecutive steps; and a little reflection will prove that these three steps will circumscribe any sentence of propositions, although it may extend from Boston to Jericho. Let us name this mode *Proposition Reading*, and we shall then have a name to designate a very useful mode of analyzing the relativities of propositions in a sentence, so as to ascertain whether any are superfluous or vaguely arranged.

We now arrive at a condition of thoughts wherein we are required to transfer our conception of a cluster of thoughts to clusters combined, and which must now be called a paragraph of sentences of propositions. The following will explain:—

Geometers are extolled for their accurate definitions; but, in my opinion, they know as little about the philosophy of definitions as theologians care for the subject. A geometer's science treats of extension, and therefore his point has reference to extension. Hence, when he defines a point as an indivisible part of space, he defines it vaguely and inaccurately, because it has no reference to a line, the basis of extension. Accordingly, a real definition of a point would be, that it is an indivisible part of space so relative to extension as to be the beginning or any such part of a line.

Observe that the said paragraph contains four sentences or clusters of propositions, and that the said four sentences are relative to one another, precisely as the four single propositions of a former sentence by which we explained Proposition Reading. Consequently, it is very apparent that we can apply the formula of proposition reading to a paragraph of sentences conjoined. But, inasmuch as we apply the formula not merely to single propositions, but to sentences of propositions, it seems expedient to distinguish this higher application of the formula, and therefore let us name it *Sentential Reading*; we shall then have a name to distinguish a very useful mode of analyzing the sentences of a paragraph, to see whether any are superfluous or vaguely arranged.

We now approach the final condition of all knowledge considered scientifically: and we must transfer our conception of a paragraph of sentences of propositions, so as to include a chapter of paragraphs, and thus obtain a basis for a final classification. This can be briefly done. We have only to see one paragraph relative to another, precisely as we saw one sentence relative to another, and so connect the paragraphs into a chapter as to form our basis for a final classification. Then, viewing the chapters reciprocally relative to form a volume, and viewing volumes reciprocally relative to a whole work, we thus obtain a final condition for any thinker's branch of knowledge. For example, I arranged this whole

essay on "Sense and Sound" into three chapters, before I began to write it; and the reader will ultimately find that the second chapter is a consequent of the first, and that the third is an illustration of both.

It now appears to me that I have given the outlines of the science of mind according to the strict rules of philosophical induction, and that I have presented it in such a way that all persons may apply it deductively to their own particular branches of knowledge, as contradistinguished from mine, which I term the pure science of mind.*

Much elaborate learning has been exhibited in expounding the principles of classifying any objects of our study. On this subject, I most approve of Mr. Mill's philosophy in his *System of Logic, Ratiocinative and Inductive*, in which he argues against Mr. Whewell's doctrine of types. But these authors appear to have written for others who have plenty of money to buy books, and leisure time to read them; else why besprinkle their writings with seraps of foreign languages, and leave them untranslated into a mechanic's mother English? Having studied them to the best of my ability, I am bound to say that they have not presented a true conception of the principles of classifying, and therefore I will now try to explain the whole subject to those unlearned persons who, like myself, have to earn their daily bread, and snatch moments of intellectual enjoyment, as best they can, from the flight of time.

1. 2. 3. 4. 5. 6. 7. 8.

2. 4. 6. 8.

2. 4. 8.

The first of these three rows of figures denotes numbers in their simple condition, as when we count things one by one to the end of the succession. The second row denotes numbers in a less simple condition, as when we count two by two to the end of a succession coincident with the first succession. And the last row denotes numbers in the least simple condition, as when we multiply two by two, and then multiply their sum by two again, so as to include a succession coincident with a simple succession of numbers. The first row is termed numeration; the second is termed arithmetical progression; and the last is termed geometrical progression.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27.
3. 6. 9. 12. 15. 18. 21. 24. 27.
3. 9. 27.

In this example, the numeration row contains twenty-seven distinct numbers, increasing one by one; the arithmetical row contains nine numbers, because we increase by three in relation to the numeration row. But the geometrical row contains only three numbers, precisely as our first example. Accordingly, it is plain that if we write a numeration row to any extent, say a million, so as to contain a million of distinct numbers, and then write an arithmetical row relative to the said numeration row, and to increase by one hundred, we should then have to write ten thousand distinct numbers in our arithmetical row, and only three in our geometrical row, exactly as when we increased by two and by three in our first and second examples. We thus find that the cube number of three will exhaust any extent of numeration considered relative to an arithmetical progression, and these correlative to the said cube number.

Now, it is surely easy to see that the aforesaid illustration of numbers is simply a counting of numbers *by heaps*, in such a way as to first present an extensive succession; and secondly, to present a condensed succession of the first; and, lastly, to present the most condensed succession relative to the second and the first. In like manner, when we rationally classify any things, we count them by heaps, in such a way as to first present them in a *class*; and secondly, in a *kind* which is relative to the said class; and lastly, in a *variety* which is relative

* See Appendix, note B.

to the said kind and class. These three steps, individually repeated to any extent required, constitute the classification required. We have thus to remember three important words, Class, Kind, and Variety, and their summation in the one word Classification. We must also remember that in our aforesaid illustrations of counting numbers by heaps, we worked with numbers in an abstract manner, which means that we did not allude to the form, the color, or to any condition which visible things possess conjointly with being numbered. Whereas, when we classify things, we have to select some feature of their nature to be known as a *mark* to designate to what heap they belong. Accordingly, one classification may excel another by the accuracy of its *marks* to denote its heaps consecutively. For example, if we were to classify animals according to the number of pounds that each may weigh when grown sufficiently to propagate its kind, we might thus be liable to arrange a fox and a goose as one kind of animals; and hence our *pounds weight* would be a ridiculous *mark* by which to count animals into such heaps that each heap shall be composed of individuals of a sameness throughout their nature. Let us next apply these principles to the common affairs of life.

All men, in all occupations, have occasion to count things by simply numbering them; and, in like manner, all men in all occupations have occasion to classify things according as circumstances may require; and hence their very language, their household words, include terms which indicate their universal process of classification. A man has different tables, chairs, bedsteads, &c., in his house, and he calls the whole of them his furniture. Furniture is thus his *classification* name, table is a *class* name, breakfast is a name of a *kind*, and cherry is a name of a *variety*. Thus, to say *cherry breakfast table*, in reference to furniture, is identically the same as for me to speak of a *verbal, common noun*, in reference to a classification of words. And to say *mahogany rocking chair*, in reference to furniture, is identically the same as for Cuvier to define man, as he does, namely, "Man is a mammiferous animal, having two hands." This means that a man belongs to the animal class, and to the kind that sucks a mamma's paps, and to the variety that has two hands. More briefly, thus: Man belongs to the two-handed, pap-sucking animals.

I have had many opportunities throughout my life, in various occupations, to trace men's process of thinking when they classified the objects of their respective branches of knowledge, and I have invariably found a oneness throughout their thinking. I have woven figured silks for ladies' gowns, and good cloth for gentlemen's coats. I have worked in a cotton factory from the cellar to the garret, and studied "life on the ocean wave" during several voyages. I have, betimes, acted as a schoolmaster for clubs of my fellow-workmen, and often acted as a clerk even in Philadelphia, and once in Wilmington, Delaware, for an auctioneer, who commanded me to always grab the halves of cents in giving change to purchasers; "because," said he, "I depend on them to pay my rent." This fellow's jabber still rings in my ears, because I cursed him too deeply in my heart. "Twenty-seven and a half, and a half, and a half, af, af, af, af, af, af, af; going, gone." And he is gone to his last home, and nobody grieves.

I have also served an apprenticeship to stone-cutting, and assisted to build locks on our canals and forts to defend our country; but of late years I have worked at variegated marble table-tops and marble mantels, and cut inscriptions on monuments. This business of carving epitaphs is quite the reverse of being a *grave* affair.

"Here lies John Paul,
A Spitalfields weaver—that's all."

Who could avoid a smile while carving such an epitaph? And I can truly say, from experience, that rich persons' epitaphs cause laughter as well as poor John Paul's. This pursuit develops singular shades of sense. For example, the best carver of inscriptions that I shall ever know, Mr. Joseph Cartledge, of Philadelphia, had to cut a number of verses which contained the following couplet:—

"Daily devotion to her Saviour's cause
Secured in her obedience to his laws."

His strong common sense prompted him, unconsciously, to inscribe the couplet as follows:—

“Daily devoted to her Saviour’s cause ;
Secured, in her obedience to his laws.”

To follow copy is the rule; and, accordingly, to correct the above error, and substitute “devotion” for “devoted,” would cost nearly thirty dollars in labor, because the whole inscription must be cut away, and the monument must be prepared again for the copy inscription. My attention was called to it, and I, as a metaphysician, at once saw that my fellow-workman’s common sense blunder had actually transformed nonsense into good sound sense. I therefore defended it by showing that the first couplet declares that her devotion was secured to a thing by her obedience to the same thing differently named. This is equivalent to saying that my friendship is secured to my friend by being humble to him; and this is nonsense. Whereas, the second couplet declares that she was devoted to a thing, and that she thereby felt secured, as a consequence of her obedience to the said thing by another name. This is equivalent to saying that I support the laws of my country, and feel thereby secured as a consequence of obeying them; and this is good sound sense. Who will assert, after this, that the pursuit of metaphysics is altogether inapplicable to the grubbing after dollars?

I was several years the secretary of the Journeymen Stone-cutters’ Society of Philadelphia, and represented them as a delegate to the Trades’ Union of Philadelphia. This union was my best school wherein to trace local bearings on the map of mind. I there beheld the phases of thinking, as exhibited in the earnest discussions and committee reports of various mechanics, who differed not only as to degrees of penetration, but also as to kinds. This was a lively contrast to my books at home, where I communed with college thinkers. Suppose a man is called a bull-head, because he acts as stupidly as a bull; may we not, with equal propriety, call a man a shoemaker-head, a weaver-head, or a bricklayer-head, whenever he argues as such workmen do? Few persons are aware of the overwhelming influence which trades exert on men’s thinking; and to such an extent that, if all workmen were as well informed as shoemakers and weavers, there is not a kingly government in Europe that could live for a day. Of course, I allude to hand-loom weavers, and not to those at power-loom; because machinery is now so perfect that it requires poor men and women only to beget little automatons to stand by machines, and betimes treat them to a drop of oil to cheer them onward. Accordingly, all strictly manufacturing countries, before many years, will possess a factory population very little elevated above the poorest Hindoo in vigor of intellect. And these remarks will apply even to the machinists throughout Philadelphia; nine of every ten will be mere automaton helps in the construction of steam-engines. Filing, chipping, and turning exhaust their manual actions; and machinery is now the best of hands.

Observe a row of bricklayers rushing up a wall; they work by the day, and therefore each man runs against the others, and at that kind of work which is the very symbol of eternal sameness. Scrutinize such workmen apart from their trade, and what are they? While at work, they can snatch from time only a twinkle to crack a joke; whereas shoemakers will demand of time to allow any arguments, “and, even though vanquished, they can argue still.” Accordingly, shoemakers stood pre-eminent at the Trades’ Union. This influence of trades over universal thinking should be boldly mapped in philosophic colors; and he who draws it should ascertain whether any orthodox clergyman is known who can bear patiently to be contradicted, only so far as to be questioned in the least doubtfully.

Throughout these phases of my life, I have studied the process of men’s thinking; and I will now give an example, as briefly as I can, to illustrate the principles of classifying.

I was once employed in a mill, where the head foreman or manager was required to take a full account of all the stock, and value each item according to his ad-

mitted accurate knowledge of the business carried on. I will first premise that he was a thorough mechanic, and being withal a man always absorbed in trade, he had little time and less inclination for any metaphysical pursuit; and therefore I never conversed with him about philosophical abstractions. Many men and boys were employed in the mill at different trades; stone-cutters at marble table-tops; cabinet-makers at tables, chairs, bedposts, washstands, &c.; carpenters attending planing-machines, and others sawing octagon bedposts, and others at machines for carved mouldings. There were rooms full of turners in wood to fulfil any orders required of them. Then there were up and down saws at logs of wood, and bur-saws, jig-saws, and veneer-saws, all hard at work. Indeed, if the mill was not an "old curiosity-shop," it was a curious shop. There was also a lumber-yard, which contained the various *sorts* of wood used in the mill. (Observe how I thus use *sorts*, without reference to particular class, kind, or variety.)

When the manager had taken an exact account of all the items, and carried out his separate value and calculation of each, he requested me, as a man employed under his charge, to examine all his calculations and summings, to see whether he had committed any mistake. I began with his lumber-yard book, in which he had given an account of the various sorts of lumber, such as mahogany, poplar, ash, beech, birch, hickory, rosewood, &c. &c., and these were given promiscuously, as though he had engaged a man to count and measure all the sorts of lumber in the various lines of the yard, while he, the manager, wrote the man's countings and measurements in his book. At the end of the book, on one page, he had given a recapitulation of all the contents of the previous pages, so promiscuously full of different items; and this recapitulation was truly a classification of his items, so as to enable him to see, at a glance, the whole amount of any sort of wood relative to the amount of any other sort, and thus to act as a balance-sheet to test the accuracy of his various summings throughout the promiscuous accounts. The following example will explain:—

| | |
|----------------|-----------------------------|
| Mahogany logs, | Domingo. |
| “ | crotches, “ |
| “ | boards, $\frac{5}{8}$ inch. |
| “ | “ 1 “ |

It is thus plain that mahogany was his Class name; log, crotch, and board were names of Kinds; and Domingo, five-eighths of an inch, and one inch were names of Varieties. This example will suffice for his lumber-yard book. We will next dispatch his mill book.

He commenced at the uppermost story, and went through each room of each story, and named them accordingly, and valued the items promiscuously in each room. For example, he had cabinet room No. 1, No. 2; turning room No. 1, No. 2; knob-turning room, moulded carving room, &c. &c. And, at the end of his book, on one page, he had a recapitulation of all the items promiscuously stated in the preceding pages. Now, mark his process of classification. Some of the articles were partly finished, and others thoroughly; and, moreover, he had to value them, not according to their selling price, but according to their full cost of production. Accordingly, in his recapitulation or balance-sheet of proof, he characterized each room's contents by the two words *discount* and *net*, which is commonly written *net*. It is thus plain that the name of each room was a Class name, and discount and net were names of Kinds, and the degrees of discount and net were names of Varieties.

I will also remark that, in his regular and daily course of superintendence, he had a memorandum book in his pocket, so that if he sold goods in the fourth story to one man, and sold other goods in other stories to other men, he did not always go to the counting-room to transact the business. He pencilled the transactions in his memorandum book, and then at night gave the book to the clerk to transfer the promiscuous items of each purchaser into one succession in the regular day-book, and thence into the ledger. Now, in this daily course of book-

keeping he exercised the identical process of thinking which he exercised when he took a valuation of the whole stock and effects.

I have selected this example, as the most favorable one which I can now recollect, to explain two distinct classifications in relation to one result. We thus acquire a conception not merely of one classification, but of a series of classifications. Still, a series of classifications is quite a different thing from a classification by series. For example, in this essay I have given, first, a classification of the fundamental elements of knowledge; secondly, I transferred the principles of this classification to form a part of the basis of a higher classification; and lastly, I transferred the principles of this higher classification to form a part of the basis for my highest classification; and I have thus presented a classification by series, as contradistinguished from a series of classifications, or a single classification. I thus exhaust the philosophy of the whole subject.

I have thus shown how mechanics go about their business; and now let us scrutinize how learned professors present their refinements to enlighten the children of mechanics. At the present time, A. D. 1854, in the public schools of Philadelphia, pupils are required to learn grammar from a legally authorized book, wherein the author gives a classification of words as follows:—

“The different classes of words are called Parts of Speech. The parts of speech in English are nine; namely, the Article, Noun, Adjective, Pronoun, Verb, Adverb, Conjunction, Preposition, and Interjection.”

He further says: “A noun is the name of any person, place, or thing; as boy, school, book.”

This definition prompted him to see that it refers altogether to the Objective division of knowledge, whereas he felt that many, many nouns refer to the Reflective division. Accordingly, he explains his definition by saying: “The word *thing* in the foregoing definition is used in its widest sense, to signify not merely external objects and substances existing in nature, but abstract qualities and relations, whatever in fact may be a *subject* of thought or discourse.” He further says: “Whatever may become a *subject* of thought or discourse must have a name, and that name is a noun.”

Now, remember that he thus uses the word *subject*, not technically, as being synonymous with the nominative of grammar, but as it is commonly used to denote an object reflectively perceived. For example, we may think of an apple’s relativity to other apples as to name, size, color, weight, and flavor, and thus a plain, visible object becomes consecutively transferred throughout trains of thinking, in such a way as to become an object reflectively perceived, which is usually called a subject. Consequently, the author’s explanation of his noun definition completely nullifies his definition, by instructing us to transfer our conception of a noun so as to comprehend it Reflectively objectively, and not merely Objectively. He should have seen at the beginning that any word can be perceived as a noun word only by means of a secondary idea conjoined with the word’s primary idea when it is not *nouned*, and therefore a noun can denote an object only as reflectively understood. Consequently, it is plain utter nonsense to give a definition of a noun and not at once base it on the Reflective division of knowledge; and if a child is too young to acquire such a conception, it is humbug to stuff it with subterfuge.

The author continues to elucidate his noun-class of words by ridiculously giving a classification of his noun-class as follows:—

“Classification of Nouns.

“Nouns are divided into various classes, according to their meaning. The principal of these are Proper, Common, Collective, Abstract, Verbal, and Diminutive.”

Now, remember, that all this classification of classes must be seen relative to the author’s single class of noun words as previously given among the other classes of other words. Consequently, this classification simply means a classification

of classes of a class. If this tuition is not sheer humbug, then may the departed spirit of Cuvier give me a "rapping" to correct me. I call it humbug, because the thing should have a suitable name, though a mechanic like myself does the thankless job of christening. I could go through this author's grammar and expose its fallacies page by page, but I will now only recommend his definition of a verb to the notice of "Spiritual Rappers;" they will find it very appropriate for their profession.

Wherever any branch of trade, or any art or science, possesses a natural classification of the objects which it contemplates, we shall always find that the said classification depends on some peculiar ideas which the said branch, art, or science involves reflectively; and that it does not depend merely on the objects classified. I have previously shown how a mill-manager used five-eighths of an inch to denote a Variety of things relative to one Kind of one Class; but another manager in another business may use five-eighths to designate a Class or Kind, because his peculiar trade may involve such a peculiar idea. Now, what peculiar ideas does a classification of words involve? It is evident that we can classify words only in accordance with their reciprocal relativities in some succession. But what succession must we select among the multiplicity of word successions as presented in books and heard in oral discourse? We must select that one which is universal as well in books as it is in conversation. Simply, the succession of words which constitutes a thought fundamentally. We thus, step by step, finally conclude that it is utterly absurd to define any class of words and not refer to its functional relativity in evolving a thought. And, however philosophers and grammarians may condemn this conclusion, it is undeniable that they have blindly tried to obey that conclusion. These are the peculiar ideas which a classification of words involves.

A boy's first lesson in grammar should be, to assist him to acquire an idea of an idea, or in other words, a particular idea of ideas generally, and thus enable him to distinguish the Reflective condition of knowledge, in relation to the Subjective and the Objective condition. His second lesson should be, to assist him to acquire a thought reflectively in its simplest condition, as a connection of simple ideas. And his third lesson should be, to assist him to acquire a complex thought relative to the said simple one, and to other complex ones. He is then in a condition to receive a classification of words and grammar rules, and to be told that grammar will teach him how to spell the signs of his ideas, how to connect them into thoughts, and how to arrange his thoughts methodically, in accordance with the established usages of the language which he learns.

We will now recapitulate what we have done. We first arranged the fundamental elements of all knowledge, by distinguishing a *sensation*, an *idea*, and a *thought*. Secondly, we arranged those elements into three consecutive conditions, respectively named the Objective, the Subjective, and the Reflective. And, lastly, we arranged those elements into classes so as to form a classification of the whole. This constitutes our first division.

We then advanced to a higher classification of ideas, and obtained three distinct classes which we consecutively named, Sectional Reading, Proposition Reading, and Sentential Reading. This constitutes our second division.

We then finally arrived at the highest classification of ideas, and obtained three distinct classes, consecutively named chapters, volume, and whole work, or treatise, or branch of knowledge. This constitutes our conclusion.

This view guides us step by step from the base to the apex of our knowledge, whatsoever branch we undertake to present to our fellow-men. It thus contains principles which are applicable to the simple sense of a child, as universally as they are to the profoundest investigations of philosophers. But, it is evident that we cannot thoroughly understand Proposition Reading and Sentential Reading, unless we comprehend such words as, *but*, *lest*, *else*, &c., which grammarians call "Conjunctions," and erroneously consider as a distinct class of words. Whereas, they are all either verbs, or adjuncts specifically applied to whole pro-

Connectives.

| | |
|--|------------------------|
| And | People riot, |
| Still | I support an army, |
| | I dislike an army. |
| Though | I dislike an army, |
| Yet | I support an army, |
| Because | people riot. |
| Providing, or provided | People riot, |
| | I support an army, |
| Nevertheless | I dislike an army. |
| Admitting, admit, or suppose | I dislike an army, |
| Still | I support an army, |
| For | people riot. |
| If | people riot, |
| | I support an army, |
| But | I dislike an army, &c. |

Disjunctives.

| | |
|--|------------------------|
| Unless, except, or excepting | People riot, |
| Notwithstanding | I support an army, |
| | I dislike an army. |
| | I support an army, |
| Lest | people riot, |
| Notwithstanding | I dislike an army, &c. |

The aforesaid examples are sufficient to distinguish grammar “conjunctions,” and to show that they are either verbs or adjuncts which are specifically restricted to whole propositions in order to denote their relativities throughout reasoning. A sound reasoner may always be known by his use of those words. The following will explain how:—

I cannot help you *as* I desire.

I cannot help you, *as* I have not the means.

In the latter sentence, *as* is used as a connective instead of “because;” but in the former, it is applied correctly as a numerative.

“Although, *however*, there is scarcely any mode of feeling or conduct which is, in the absolute sense, common to all mankind; and though the generalizations which assert that any given variety of conduct or feeling will be found universally (*however* nearly they may approximate to truth within given limits of observation), will be considered as scientific propositions by no one who is at all familiar with scientific investigation; yet all modes of feeling and conduct met with among mankind have causes which produce them; and in the propositions which assign those causes will be found the explanation of the empirical laws, and the limiting principle of our reliance on them.”

The above sentence is from Mr. Mill’s *Logic*, page 539. Observe that he uses *however* twice. Grammarians would call the latter “however” an adverb (*i. e.* an adjunct), and the former “however” a conjunction. Whereas the first one refers to the preceding paragraph and to its own sentence, precisely as the latter one refers to the word *nearly* and to the preceding proposition.

Adjuncts are variously compounded to denote Numeratives. For example, *whereas*, *even as*, *just as*, *precisely as*, *exactly as*, &c., and when thus compounded, each compounded numerative points towards two propositions or sentences, analogously to *so as*, which always plainly refer to two propositions. So much for Numeratives.

All the connectives were, doubtless, once verbs as plainly as the word *suppose*, which is often used as a connective; but in the course of ages, they have been cut down, like *give* to *gif*, and thence to *if*. See Horne Tooke’s *Diversions of Purley*. But we now use several adjuncts as connectives, such as *agreeable*, *contrary*, *conformable*, &c. *Accordingly* is always a numerative when applied to sentences; and remember, it always points towards two sentences or propositions.

If I will not repent, I may be punished.
Unless I will repent, I may be punished.

These two sentences convey one meaning in accordance with the algebraic principle that a quantity, added negatively, is equivalent to the quantity deducted positively. *I will not repent*, being granted, then, as a consequence, *I may be punished*. *I will repent*, being not granted, then, as a consequence, *I may be punished*. Observe that *if* and *unless* naturally begin their respective sentences. And now scrutinize the following instruction in Mr. Kirkham's Grammar: "Whenever a sentence begins with a conjunction, its members are transposed; as, '*If thou seek the Lord, he will be found of thee.*'" This blunt-headed teacher could not see that the word "find" denotes more than mere seeing, because it denotes the verbalized result of seeing intently after something. Accordingly, it is plain that we must first seek the Lord before we can find him. Kirkham gave this absurd instruction to make his false conception of "conjunctions" to be the standard of their use. He was the Barnum of grammarians, and this means, the puppet-showman of grammar.

But is used as a connective, and as a deductive, as follows:—

John went, *but* I would not.
 All went *but* Peter.

The first "*but*" is a connective, and the second is a deductive. The connective *but* possesses a peculiar characteristic, or, more properly, it refers to a peculiar proposition. It does not denote the mere adding of one proposition to another, *but* the adding of one which possesses a sameness and a difference in relation to the one to which we add; analogous to giving a knife, and a shilling *to boot*, for another knife. Accordingly, it is highly probable that the connective *but* has been jabbered from *to boot*, and that the deductive *but* has been jabbered from *be out*. Again see the *Diversions of Purley*. Tooke is the solid grammarian, and though he flinched from a verb, he had the noble courage to battle against tyrants.

There is a peculiar connective which constitutes what grammarians call "the infinitive mood." The following example will explain:—

I design *to go to Boston*.

Observe that the word *to* is repeated, and that it denotes different relativities; hence I infer that *to*, like *but*, has been chattered from distinct sources. *To Boston*, denotes a thing's position of place relative to some course of action, whereas *to go* denotes a thought conjoined with another in such a way as to designate it added with brevity rather than numerated circuitously. Accordingly, wherever we find what grammarians call "the infinitive mood," we may substitute a numerative as follows: "I design *that* I will go to Boston." Or, make the verb into a noun, as, "I design going to Boston."

When we say, one *and* five are six, the word "*and*" thus plainly denotes a connective characteristic quite the reverse of the connective "*but*," as aforesaid explained. *And* is not in the least squeamish, but will connect any propositions or sentences according as desired; whereas "*though*" resembles "*but*" in requiring peculiar propositions. When we use *if*, *admit*, or *grant*, as connectives, they each refer to a proposition which is an antecedent of a consequent one; whereas *though* refers to a proposition which is not an antecedent, but a proposition in mere contrast with another; as, "*Though* I am a mechanic, I can think as well as any dubbed lord."

Each of these deductives, *hence*, *thence*, *whence*, *therefore*, and *consequently*, refers to a consequent as drawn from an antecedent; whereas *if* refers to an antecedent as premised to a consequent. Archbishop Whately, in his vaunted work on Logic, gives us balderdash about "conjunctions":—

"The ground is rich, *therefore* the trees flourish.
 The trees flourish, *therefore* the ground is rich."

Therefore is thus said by Whately to convey a double meaning, whereas it always conveys one meaning. The double meaning of those two sentences, considered relative to *therefore*, consists in so transposing the propositions as to show the first consequent as a simple result, and the second consequent as an inferred result. Suppose we see a huge piece of timber brought in a ship from India—we infer that the ground was rich where that timber grew, because we have been accustomed to see trees flourish where ground is rich. This reasoning will apply to the following examples:—

“The trees flourish, *because* the ground is rich.
The ground is rich, *because* the trees flourish.”

Because always begins the causative proposition to which it refers, and in relation to another proposition as an effect. So far as the sense of “*because*” is concerned, it is immaterial whether we declare that rich ground is the cause of a tree’s flourishing, or declare that the tree’s flourishing is the cause of our knowing rich ground. So much for connectives.

“John works every day, Sundays *excepted*.” Everybody can see that “*excepted*” is thus placed naturally towards Sundays, by following Sundays rather than preceding. In like manner, *else* and *lest* conclude their propositions; but they refer to different relativities, because *else* stands among deductives precisely as the connective *but* stands among connectives. The following example will explain.

I work *lest*, I may starve.
I *must* work *else*, I may starve.

Observe the two contrarieties of *else*’s proposition as compared with *lest*’s *I work*; yet both propositions being deducted, then I shall not work, and thence I may starve. Perhaps, nine times of every ten in which authors have used *else* as a deductive, we may find *or* accompanying *else*. There must be some reason for this constant and singular companionship when “*else*” requires nothing to do with “*or*.” The reason is simply this: *else*’s proposition always includes alternatives or contrarieties, and these naturally suggest the dragging of “*or*” along with “*else*.” Locke says: “Justice and truth are the common ties of society; and *therefore*, *even* outlaws and robbers, who break with all the world besides, must keep faith and rules of equity among themselves, *or else* they cannot hold together.” Observe that it is optional whether we discard “*therefore*” and “*or*” from the said sentence, and thus present our proposition purely deducted, or discard “*therefore*” and “*else*” and insert the word “*either*” after “*must*,” and thus present our propositions numerated alternatively. In either case, we must remember that the word *even*, as Locke has placed it before outlaws, is a numerative because it refers to two propositions to show their equality, and it thus nullifies the sense of *therefore* which precedes it.

Jane is ugly, *else* she is pretty. Here “*else*” is applied to point towards opposite propositions, and therefore “*else*” is thus falsely applied. Substitute “*or*” for “*else*.”

“*Lest* she may feel unhappy concerning my health, *please tell Jane that I am well*.” I have thus placed *lest* at the beginning of the sentence, whereas it should be literally placed at the very end; because, it belongs to the proposition italicized. We may often find “*lest*” thus used headlong. It is also used very often improperly by the ablest authors, and in a manner more pernicious than misplacing it. For example, Jane was afraid *lest* her lover would be untrue. Here, let us apply our mode of Proposition Reading, and we shall find that neither of those propositions is a consequent of the other, but that the latter is a simple illustration of the former, because it merely expresses an objective condition of her fear, and therefore we should use a numerative to point towards that condition, and say, Jane was afraid *that* her lover would be untrue. This will appear plainer, if we say, Jane thought, believed, or surmised that her lover would be untrue. The best authors neglect this example, and hence they too often give us mere illustrative propositions which they assume as causative ones.

"Help him, lest he die."

"That *supposition*, 'he (should) die,' being *lessed, lest, unlessed, &c.*, 'help him,' accordingly, with undivided purpose."

This example is from Cardell's Grammar, and indicates a strange misconception of "lest's" meaning. *Lest* I be misunderstood, I say the sentence is analogous to *If you help not, he may die*; Cardell says it is analogous to *If he die not, help him*. Though I thus dissent from Cardell, and could adduce other examples where I also dissent, yet I esteem his grammar above all others. Any page of his work indicates sound thinking when compared with other grammars, which merely copy the bigoted formalities of Old England, whereas Cardell's work is the only manly, American effort to introduce Horne Tooke's irrefutable principles of language into the schools of our democracy.

There is also a common mode of presenting an antecedent proposition and a consequent one by simply expressing their succession, as follows: "Having my Sunday's leisure, I study my book." This mode is used merely for the sake of brevity, instead of saying, "I have my Sunday's leisure, therefore, I study my book." This mode, however, is very often abused, as follows: "Most of the errors in type-setting are on account of previous mistakes in the distribution of the type: the letters *having been placed* in the wrong boxes." The difference of tenses clearly proves that the concluding proposition of the said sentence was conceived as a causative one, whereas the author alludes to present errors as resulting from previous mistakes; but these mistakes are not a result of misplacing letters in boxes, because the two mean one thing differently expressed, and thus the misplacing of letters is a mere illustration of what the author means by "previous mistakes." He thus adopted a mode of presenting causative propositions when only simple description was required, as follows: "Most of the errors in setting type result from previous mistakes *when* letters were placed in wrong boxes *during* the distribution of the types." I invite my readers to reflect on this example, because it may assist them to detect a very common fallacy, which consists in the manner of presenting propositions more than it consists in the falsity of their sense. But, remember, that manners often deceive. Perhaps, more than one-half of the propositions which are presented in books by means of deductives and connectives would appear more consistent if presented by means of numeratives, because the reader's attention would be thus directed to a simple garb as contradistinguished from a wardrobe. We never require a deductive in any rational definition, because a definition is a description and not reasoning, and in such descriptions we might always reject connectives by being a little circuitous; consequently, we should depend most on numeratives to give our ideas definitely. But I must now conclude.

If the labor which this little essay has cost me had been devoted to sweeping the streets of Philadelphia, it would now buy a snug farm for me and mine. Nevertheless, I feel no regret for having studied, instead of having swept. But I do regret that so few thinkers can associate sympathetically with me, to interchange thoughts about thoughts. I am acquainted with only one person, my esteemed friend, Mr. John Wesley Huff, of Philadelphia, whom I would hopefully ask for a critical opinion of my work. This is surely a singular condition for an old man in a thronged city, where he ought to have "troops of friends," of congenial study. I often feel like one o'clock sounds at midnight, solitary yet tuneful. And thus, what a sorry target is a metaphysician to shoot taunts and gibes at; nevertheless, I have fearlessly bared my breast to thee, my reader.

APPENDIX.

NOTE A.

The following extract is from the *Philosophical Transactions of the Royal Society*, London:—

“CASE OF A LADY BORN BLIND, WHO RECEIVED SIGHT AT AN ADVANCED AGE BY THE FORMATION OF AN ARTIFICIAL PUPIL. BY JAMES WARDROP, ESQ. (Read June 15, 1826.)

“The case, besides establishing the curious physiological fact, that the nerve of the eye can remain fit to receive the impression of external objects, though totally excluded for a long series of years from the performance of that function, claims a much higher interest in a philosophical point of view; some of the facts here detailed confirming in a remarkable manner what BERKELEY had predicted of ‘a man born blind being made to see,’ in the 79th section of his ‘New Theory of Vision,’ published in the year 1709. He says, ‘a man born blind being made to see, would, at the first opening of his eyes, make very different judgments of the magnitude of objects intromitted by them from what others do. He would not consider the ideas of sight with reference to, or as having any connection with, the idea of touch.’

“On the seventh day” (after Mr. Wardrop had operated on her eyes) “she took notice of the mistress of the house in which she lodged, and observed that she was tall. The teacups and saucers underwent an examination: ‘What are they like?’ her brother asked her. ‘I don’t know,’ she replied; ‘they look very queer to me; but I can tell what they are in a minute when I touch them.’

“On the sixteenth day she was asked how she saw on that day? She answered, ‘I see a great deal, if I could only tell what I do see; but surely I am very stupid.’

“She entertained the hope that when she got home her knowledge of external things would be more accurate and intelligible; and that when she came to look at those objects which had been so long familiar to her touch, the confusion which the multiplicity of external objects now caused, would in a great measure subside.

“When she was placed under my care she had reached her 46th year.”

According to this extract, it is demonstrated that we have certain parts of our body which we call our senses, and which are so many distinct inlets of sense, and that they are yet reciprocally relative in such a way that a union of two, as seeing and touching, is necessary to produce a full sensational effect, whether to distinguish a thing’s form or to judge of its distance. Accordingly, when we admire a picture, or enjoy a tune, do we speak merely metaphorically when we say that the artist and the musician evince excellent *taste*? Does not our language, when conjoined with Mr. Wardrop’s deduction, clearly indicate that our *seeing*, *touching*, and *tasting* are reciprocally, though reflectively, involved in our admiration of a picture when we predicate its excellence? A Paganini fiddler may play on one string, but suppose a man’s brain had only one string of sense, how would it be fiddled? It is therefore evident that his brain requires a combination of sense strings, so as to act from simple impressions, reciprocally for themselves.

NOTE B.

Philosophers disagree concerning the process of induction. Mr. Whewell says: “In induction, besides mere collection of particulars, there is always a *new conception*, a principle of connection and unity applied by the mind, and superinduced upon the particulars.” If I understand him aright, he assumes that, to methodize any extensive induction of facts, the mind originates a new conception as though self-constituted, and independent of the said induction, but still appropriate to all the particulars. He also says: “The *leading thought* which suggested and animated all Kepler’s attempts was true, and, we may add, sagacious and philosophical; namely, that there must be some numerical or geometrical relations among the times, distances, and velocities of the revolving

bodies of the solar system." Now, I understand this "leading thought" of Kepler, as thus stated, to be synonymous with Mr. Whewell's "new conception," as given in my previous quotation; and, therefore, Mr. Whewell's philosophy of induction is incorrect, by assuming a "new conception" without a sensational basis. Kepler could never have acquired his "leading thought," if he had never observed the planetary motions and often reflected concerning them.

Mr. Mill, in his *System of Logic*, dissents from Mr. Whewell; though, if I comprehend him, he admits that, in any extensive inductions, there is always an important conception accompanying them, as though to arrange them; but, that the said conception is merely the most important particular among all the particulars. I agree with Mr. Mill, and, to prove my position, I will give a brief history of the rise, progress, and completion of my present essay on "Sense and Sound."

Many years ago, perhaps thirty, my attention became riveted to the names and figures which form the numeration table in any common arithmetic. The more I studied them, the more I was astonished that we could speak rationally about millions upon millions, and yet, when I closed my eyes, I could perceive only three distinct things of any kind, reciprocally relative in one association of my perceptions. I exclaimed, by what process of perception do we accomplish all this numeration? I read many hundreds of pages from various authors who have written on the philosophy of numbers, and all I could learn from them was simply this, that we stop at ten and begin anew, because men first counted by means of their fingers, and thus adapted the point of their stopping to their number of fingers. These assumptions disappointed me, and I began to investigate the subject for myself.

I read all the works which I could procure on the subject of mind, regardless of sect, or party, or particular school of philosophy; and thus, in consequence of my first simple inquiry concerning numeration, I became gradually immersed in the vortex of metaphysics. Years passed, and I continued to study, till I accidentally arrived at a conclusion that we do not think by means of *faculties*, as affirmed by authors and believed by their readers, but, that we always think in correlations, by perceiving one thing relative to another, and these correlative to a third, and so consecutively to the most complex correlations. This conclusion became the "leading thought" of my pursuit, and in a few years I wrote an essay on "the Philosophy of Numeration." In another year I wrote a pretty long essay on language, to establish my "leading thought" in opposition to the doctrine of faculties; but I finally rejected it. In another year I wrote an essay entitled "The Relations of Sciences," which was freely published in the *Public Ledger*, of Philadelphia, November 22, 1842. I cast this aside, and I next produced "A Theory of the Human Mind," which was also freely published in the *Public Ledger*, consecutively from June 9, 1843. I sent my "Philosophy of Numeration" to the *Democratic Review*, at New York, and it was published, June, 1847. But I have written it anew, and may publish it some day.

Years passed, and I continued to analyze my former essays in manuscript and in print; but none of them, except my "Philosophy of Numeration," gave full satisfaction to my "leading thought." I next produced a long essay, entitled "The Elements of Pure Method," which I presented to a publisher for publication, but he rejected it, and he thus did me a favor, though I thought, at the time, I was very unfortunate. In the course of years this work also displeased me, and in a very singular manner. My "leading thought" about our thinking in correlations was strictly followed throughout the entire work, for that thought had become my guiding star. Though I could not detect a single proposition which I could rationally oppose, yet the work as a whole appeared, year after year, to be more and more a failure. "What is the cause of this abominable contradiction?" I repeatedly exclaimed to myself. "There is one chapter on 'Sensations, Ideas, and Thoughts;' another on 'Mind and Machinery;' another

on 'Grammar Conjunctions;' another on 'The Philosophy of Numeration;' another on 'Theological Terms;' another on 'Mathematical Terms,' &c. I insist that they are individually true; yet, as a whole, they are positively false. Ha!" said I to myself one day, "I now see my error. I have undertaken to present a science of mind to other thinkers by methodizing their respective branches of knowledge; whereas, I must construct my science in an abstract manner, as though all branches of knowledge have only one straight direction between their beginning and their end; and I must leave all other thinkers to methodize their own branches of knowledge deductively from mine." This conclusion, accompanied by my "leading thought," formed the starting-point of my final essay on the subject of mind.

I hope that this sincere confession of my inductive career through many years will be understood in the proper sense, as being given to assist philosophers to come to an amicable understanding about the process of induction. I will also remark that we cannot speak of mind except metaphorically; but one metaphor may approximate nearer to literal fact than another metaphor. Though I have rejected the doctrine of faculties as being a bundle of sheer metaphors, yet I speak metaphorically when I say that we think in correlations successively, analogous to the revolutions of a wheel: but I modify my metaphor by saying so far as each revolution of the wheel evolves from a point, and returns to the same point again, and again, and again. Accordingly, the question which I leave for the candid critic to decide is, whether my metaphor, as thus modified, approaches more closely to literal fact than my opponent's bundle of metaphors does in solving the problem—what is the formula of universal thinking?

NOTE C.

The reader may have seen that I have referred in my essay to my friend, Mr. J. W. Huff, as the only person, with whom I am acquainted, competent to give me a critical opinion of my work. I will now state that I presented my essay to him with a note sealed in an envelop. I requested him to read the essay first, and then to break the seal of the envelop and read my note, which contained a description of the picture which my essay was designed to stamp on my reader's mind. He did so; and in less than two days he came and acknowledged that, to the best of his ability to judge, I had succeeded. On this decision I now publish the essay. The following is a copy of my sealed note to him:—

MR. J. W. HUFF:—

Esteemed Friend: I have designed my essay on "Sense and Sound," to supersede all former works on the science of mind; that is to say, I have designed it to include all which men have worked out truly on the subject of mind, and also to include something which they have left undone for me or any other to do. Accordingly, I drew my plan in such a way as to have certain boundary lines within which all persons might arrange details for themselves. These boundary lines refer to three consecutive divisions of the science of mind. The first I devoted to the fundamental elements of knowledge, so as to include their requisite fundamental conditions. The second I devoted to those elements as they become variously combined. And the last I devoted to a summation of those variously combined elements.

Now it strikes me that a man must be somewhat dull if he cannot apply my essay to any branch of knowledge whatsoever he may pursue, and apply it in such a way as to analyze or methodize his whole subject from any word to a volume and to volumes. If I have not stamped this picture on your mind, then, my dear fellow, I have sadly failed, and I must try again.

Yours truly,

J. G.

NOTE BY A FRIEND.

[Every psychologist knows that the key to progress in the science of mind consists in the careful tracing of one's own thinking. Hence, any well-meaning attempt to analyze our thoughts, and to methodize the results of that analysis, deserves his attentive examination. In the present essay, I think the reader will agree with me that this attempt has been made with remarkable skill. It is at least the only treatise on the science of mind, that I have seen, which will stand the most searching of all philosophical tests. It is *methodical*, in the truest sense of the word. The term method, says Coleridge, can be correctly applied to that alone which contains within itself the principle of progression. From the first to the last sentence of the essay, the development of this principle is clearly discernible. Hence the essay, unless I have sadly failed to appreciate it, is eminently scientific; and, as such, I commend it to the logician, to the metaphysician, and to the philosophical grammarian.

That the essay is profoundly original, and for that reason alone worthy the attention of those who are fond of intellectual pursuits for their own sake, is patent to the most careless observation. But this merit, great as it is, is the smallest of its claims to respect. Its pre-eminent value consists in its utility. As adequate proof of this statement, let the reader bear in mind the fundamental inculcation of the treatise—namely, that we think in correlations on all subjects whatsoever; let him carefully examine the premises whence this conclusion has been deduced; let him see how the author has evolved, by means of it, a classification, by series, of the elements of the most abstruse of human studies, and he will perceive, in the application of this law of the mind, a principle so radically progressive that it will enable him, with equal facility, to analyze the meaning of any single word, and to arrange in a scientific form the elements of any branch of knowledge with which he is acquainted. Let him observe how the author has applied this principle to the solution of such complex terms as *will*, *own*, &c., and he cannot fail to evolve from his own thinking the relativity denoted by a word which so eminent a writer as Sir James Mackintosh considered undefinable; namely, the word *ought*.

In the chapter on "Grammar Conjunctions," the principles first enunciated by Horne Tooke relative to these obscure "parts of speech" receive a philosophical statement. This chapter I would especially commend to the young student of grammar.

With the author, I have enjoyed many years of intellectual companionship. This intimacy has afforded me a rare opportunity of observing the play and the by-play of a metaphysician's mind. That I have written these lines to enlist the attention of the reader, and not to flatter the author, is well known to my honored friend, to whom a word of praise, unfelt, would excite a pang of regret far keener than the boldest disapproval of his essay.

J. W. HUFF.]

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SENSE AND SOUND,

AS THEY

RECIPROCALLY FORM ANY SIGN OF MIND.

BY

✓
JOHN GASKELL,

AUTHOR OF "THE PHILOSOPHY OF NUMERATION."

Every doctrine which has exercised any influence has done so, and could do so, only by the new direction which it has given to the mind, by the new point of view in which it has presented the subjects of inquiry; that is to say, by its method. Every philosophical reform has its avowed or secret principle in a change or in an advancement of method.

VICTOR COUSIN.

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